



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/W.No.14/KRIDL/WMM/Gradation/2014-15

18.08.2014

GRADATION FOR WMM MORTH TABLE-400-11



Client : Asst. Executive Engineer, T. Dasarahalli Sub Division, BBMP, Bangalore.

Agency : Technical Manager (West), KRIDL, Bangalore.

Name of Work : Filling of Potholes in Arterials and Sub - Arterials roads in Bagalagunte Ward No.14, T. Dasarahalli Sub Division, BBMP, Bangalore.

Reference : EE/DD/WO/176/2013-14 Dated: 20.12.2013

Date of Testing : 18.08.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 7500

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	250	250	3.3	96.7	95-100
22.4	2750	3000	40.0	60.0	60-80
11.2	1280	4280	57.1	42.9	40-60
4.75	955	5235	69.8	30.2	25-40
2.36	1005	6240	83.2	16.8	15-30
0.600	550	6790	90.5	9.5	8-22
0.075	420	7210	96.1	3.9	0-8

Note:

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2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30 days from the date of testing.



*ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಧೀಯಂತರು
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18.08.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	Asst. Executive Engineer, T. Dasarahalli Sub Division, BBMP, Bangalore.
Agency	Technical Manager (West), KRIDL, Bangalore.
Name of the Work	Filling of Potholes in Arterials and Sub - Arterials roads in Bagalagunte Ward No.14, T. Dasarahalli Sub Division, BBMP, Bangalore.
Reference	EE/DD/WO/176/2013-14 Dated: 20.12.2013
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	18.08.2014

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	385	386	22.18
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	85	86	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	300	
4	Aggregate Impact value = percent fines	22.08	22.28	
	$100 * (W_2 / W_1) \%$			

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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(Signature)
ಶಾಂತಿ ಕರ್ನಾಟಕ ಅಧಿಕಾರಿಗಳು
ಬಿ.ನಾಸರದತ್ತ ಕುಮಾರ್-ವಿಭಾಗ
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18.08.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	Asst. Executive Engineer, T. Dasarahalli Sub Division, BBMP, Bangalore.
Agency	Technical Manager (West), KRIDL, Bangalore.
Name of Work	Filling of Potholes in Arterials and Sub - Arterials roads in Bagalagunte Ward No.14, T. Dasarahalli Sub Division, BBMP, Bangalore.
Reference	EE/DD/WO/176/2013-14 Dated: 20.12.2013
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	18.08.2014

Result : Flakiness Index = 11.36%

Elongation Index = 13.20%

Result : Combined Flakiness & Elongation index 24.56%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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Job No: CTCE/BBMP/W.No.14/KRIDL/BC/Bitumen/2014-15

28.08 2014

BITUMEN CONTENT DETERMINATION OF BITUMINOUS CONCRETE MIX

As per IRC:SP:11-1984

CLIENT	Asst. Executive Engineer, T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	Filling of Potholes in Arterials and Sub - Arterials roads in Bagalagunte Ward No.14, T. Dasarahalli Sub Division, BBMP, Bangalore.
REFERENCE	EE/DD/WO/176/2013-14 Dated: 20.12.2013
SAMPLE I/D	Potholes Filling to roads in Bagalagunte Ward No.14, BBMP, Bangalore.
DATE OF TESTING	28.08.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474	473.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	26	26.50
7. Bitumen content in %	5.20	5.30
8. Average	5.25	

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ಪರಿಶೀಲಿಸಿ, ಉಪ-ವಿಭಾಗ
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28.08.2014

BITUMEN CONTENT AFTER GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

As Per IS 2386 and IRC:SP:11-1984

CLIENT	Asst. Executive Engineer, T. Dasarahalli Sub Division, BBMP,
AGENCY	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	Filling of Potholes in Arterials and Sub - Arterials roads in Bagalagunte Ward No.14, T. Dasarahalli Sub Division, BBMP, Bangalore.
REFERENCE	EE/DD/WO/176/2013-14 Dated: 20.12.2013
SAMPLE I/D	Potholes Filling to roads in Bagalagunte Ward No.14, BBMP, Bangalore.
DATE OF TESTING	28.08.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	40.36	8.51	8.51	91.49	79-100
9.5	36.55	7.71	16.23	83.77	70-88
4.75	72.21	15.23	31.46	68.54	53-71
2.36	68.52	14.46	45.92	54.08	42-58
1.18	51.26	10.81	56.73	43.27	34-48
0.6	56.36	11.89	68.62	31.38	26-38
0.3	50.39	10.63	79.25	20.75	18-28
0.15	29.68	6.26	85.51	14.49	12-20
0.075	33.68	7.11	92.62	7.38	4-10

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	36.69	7.75	7.75	92.25	79-100
9.5	43.66	9.22	16.97	83.03	70-88
4.75	73.62	15.55	32.52	67.48	53-71
2.36	66.52	14.05	46.57	53.43	42-58
1.18	65.35	13.80	60.37	39.63	34-48
0.6	40.28	8.51	68.87	31.13	26-38
0.3	36.88	7.79	76.66	23.34	18-28
0.15	41.58	8.78	85.44	14.56	12-20
0.075	40.93	8.64	94.09	5.91	4-10

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